

VEGETABLE

Variety Trials

1983

Preliminary Results

BROCCOLI

PAPRIKA

CAULIFLOWER

SWEET CORN

ONION

TOMATO

Department of Vegetable Crops
Agricultural University of Norway
P.O. Box 22, N-1432 Ås-NLH, Norway

January 1984

Mimeograph No. 167

VEGETABLE VARIETY TRIALS

1983

Editors: Trevor Remedios and Toril Sagen

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INTRODUCTION

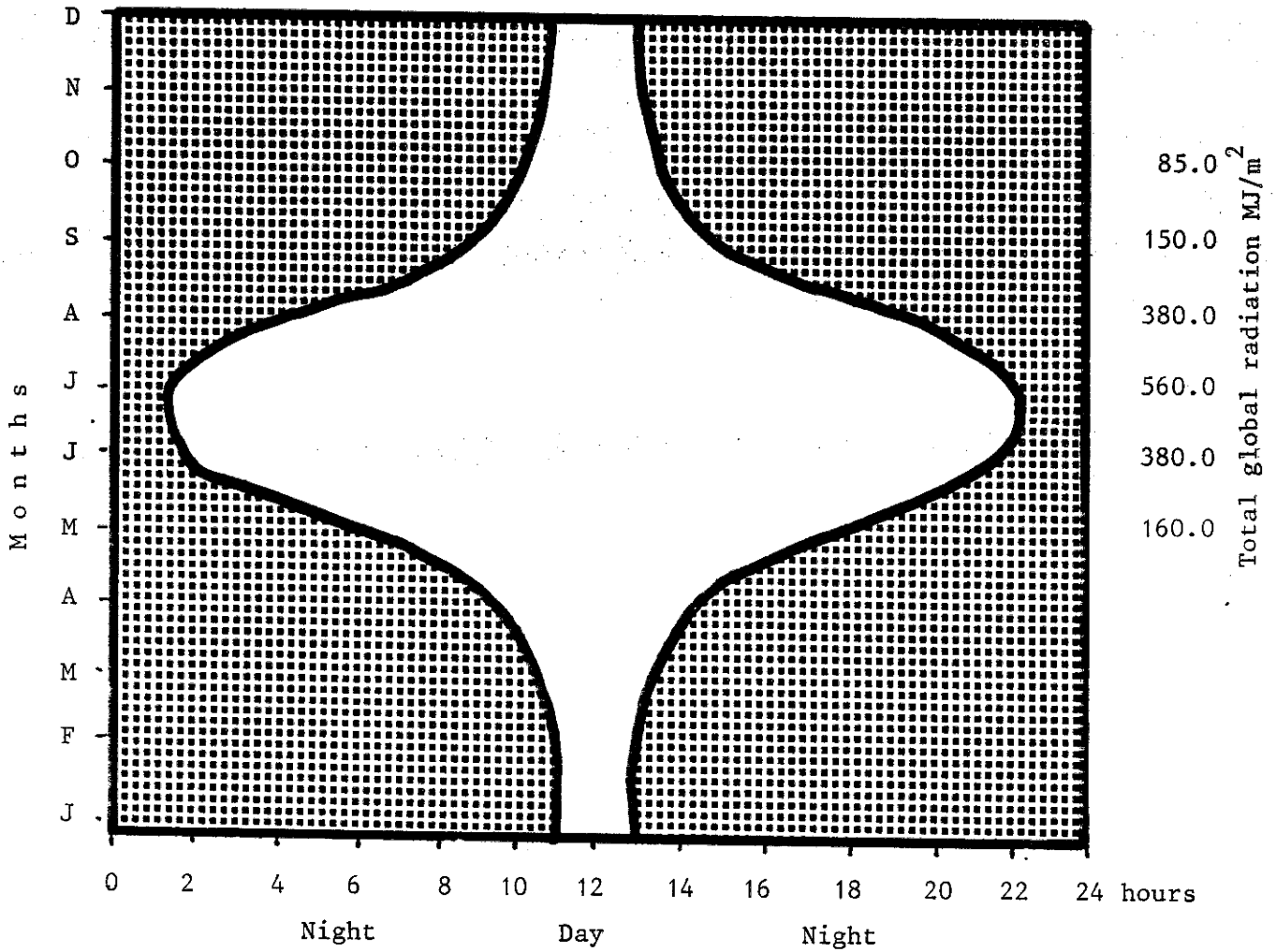
A part of the routine work carried out at the research farm for the Department of Vegetable Crops, Agricultural University of Norway, is the testing of new varieties under Norwegian conditions and the introduction of new kinds of vegetables. This publication deals with the results of variety trials performed in 1983.

We wish to thank the many seed firms who have been generous in supplying us with seed samples for our trials here at Aas. In some cases, the firm named may not be the primary seed producer, but the retail agent.

Aas, Norway
January 1984


Arnulf R. Persson
professor

The graph shows the global radiation in MJ/m² during the year in Ås - 60 °N



WEATHER DATA FOR ÅS FROM MAY - SEPTEMBER 1983

	Month	1983	1982	30 years average (1931-60)
Rainfall (mm)	May	114.4	93.6	49
	June	40.9	48.0	70
	July	30.6	49.0	79
	August	21.4	96.1	96
	September	163.7	93.2	86
Average temperature °C	May	10.1	9.8	10.2
	June	13.8	13.9	14.4
	July	17.9	17.6	16.8
	August	15.8	15.8	15.6
	September	11.3	11.9	10.9

SEED SUPPLIERS (BROCCOLI, CAULIFLOWER, ONION, PAPRIKA, SWEET CORN,
TOMATO)

AH A. Hansens Amagerfrø, Postboks 3, DK 2630 Tåstrup, Danmark
ARZ A.R. Zwaan & Zoon b.v., Postbox 992, NL-2270 AZ Voorburg, The Netherlands
ASG Asgrow International Corp., Subsidiary of the Upjohn Comp., Kalamazoo,
Michigan 49001, USA.
ASM Asmer Seeds Ltd., Asmer House, Ash Street, Leichestor, LE 5 ODD,
England
BALL Geo. J. Ball Inc., West Chicago, Illinois 60185, USA
BEJO Bejo Zaden B.V., P.O. Box 9, NL-Noordscharwoude, The Netherlands
BOE A.A. Boe, Dept. Plant & Soil Sciences, Univ. of Idaho, Moscow, Idaho
83843, USA
BRU Bruinsma Selecteriebedrijven B.V., P.O. Box 24, Naaldwijk, The Netherlands
CS Charles Sharpe & Co. Ltd., Sleaford, Lincs, England
DES Dessert Seed Co., Inc., P.O. Box 181, El Centro, California 92244, USA
DP D. van der Ploegs Elite Zaden B.V., Postbus 19, 2990 AA Barendrecht,
The Netherlands
ENZA De Enkhuizer Zaadhandel B.V., Postbus 7, Enkhuizen, The Netherlands
GRI Grimstadfrø A/S, 4890 Grimstad, Norway
HAR Joseph Harris Co. Inc., Moreton Farm, Rochester, N.Y. 14624, USA
LA SF Landvik, 4890 Grimstad, Norway
LC L. Clause, S.A., 91220 Brétigny-sur-Orge, France
LD A/S L. Dæhnfeldt Havefrø, Postboks 15, DK 5100 Odense, Denmark
LDM Leen de Mos BV, S-Grovenzande, The Netherlands
KEY Keystone Seeds Inc., P.O. Box 1438, Hollister, California 95023, USA
LOG Økern Torgvei 1, Oslo 5, Norway
MEIS Hans Meisert Samenzucht, Postfach 510580, Riethorst 19 (Lahe),
3000 Hannover 51, BRD
NF A/S Norsk Frø, Postboks 27 Korsvoll, Oslo 8, Norway
NK Northrup King & Co., P.O. Box 959, Minneapolis, Minnesota 55440, USA
NUN Nunhem's Zaden, P.O. Box 4005, NL 6080 AA Haelen, The Netherlands
OE J.E. Ohlsens Enke, Ny Munkegård, DK 2630 Tåstrup, Denmark
PARK Geo. W. Park Seed Co., Inc., Greenwood, South Carolina 29647, USA
PS Petoseed Co., Inc., P.O. Box 4206, Saticoy, California 93003, USA
RB Rogers Brothers Seed Co., P.O. Box 1647, Idaho Falls, Idaho 83401, USA
RS Royal Sluis, Postbus 22, 1600 AA Enkhuizen, The Netherlands
SAK T. Sakata & Co., C.P.O. Box 11, 2 Kiribatake, Kanagawa-Ku, Yokoshama,
Japan 220-91.
S&G N.V. Koninlijke Zaadteelt en Zaadhandel, Sluis en Groot, Postbus 13,
Enkhuizen, The Netherlands
SPER Carl Sperling & Co., Postfach 2640, D-2120 Lüneburg, BRD
STO Stokes Seeds Ltd., 39 James Str., Box 10 St. Catharines, Ontario L2R 6R6,
Canada
SUH Sveriges Utsädesförening, Hammenhögsavdelningen, S-270 50 Hammenhög,
Sverige
SW Seedway Inc., Hall, New York 14463, USA
TA Takii & Co., Ltd., Seed Growers, P.O. Box 7, Kyoto Central,
180 Umekoji-Inokuma, Japan
VDB Gebrüder van den Berg, N.V., Postbus 25, NL-2670 AA Naaldwijk,
The Netherlands
WAV Van Waveren Pflanzenzucht, Rosdorf, Postfach 75, 34 Göttingen,
The Netherlands
WW W. Weibull AB, Fack, S-261 20 Landskrona 1, Sverige

BROCCOLI VARIETY TRIAL

Relative yield 100 = 1070 kg/daa

Variety	Seed supplier	First harvest date	Harvest period (days)	Average weight of central head (g) Class I	Average weight of side shoots (g)	Relative number of harvested heads	Relative yield
020 E 1538	ENZA	18.7	54	92.3	21.4	178	104
021 SG 1 F ₁	HA	18.7	54	90.4	23.3	202	124
022 SL 706	HA	9.8	31	175.8	20.7	93	85
023 Prominence	TA	9.8	31	274.5	26.4	119	157
024 Idol	TA	9.8	31	206.9	24.5	168	148
025 Cruiser	RS	9.8	31	215.5	27.7	71	88
026 Laser	RS	9.8	31	226.5	21.7	107	116
027 Skiff	RS	9.8	31	199.6	36.4	28	74
028 Corvet	RS	18.7	54	185.1	28.1	100	100 (Reference variety)
029 Coaster	RS	18.7	54	181.4	26.9	123	119
030 Ritados	OE	9.8	31	196.4	28.5	91	106
031 Stolto	OE	18.7	54	111.2	18.5	135	95
032 Southern							
Comet	ASG	18.7	52	120.5	24.4	200	140
033 Futura	ASG	18.7	54	66.8	21.9	185	106
034 E 91 B	ENZA	16.8	24	277.7	30.5	47	122

AVERAGE TABLE FOR BROCCOLI TRIALS 1980-83

Variety	Seed supplier	Number of trials	Harvest period's average length (days)	Relative average weight of central head	Average weight of side shoots (g)	Relative number of harvested heads	Relative yield
020 E 1538	ENZA	1	100	50	76	178	104
021 SG 1 F ₁	HA	2	113	58	84	133	99
022 SL 706	"	1	57	95	74	93	85
023 Prominence	TA	1	57	148	94	119	157
024 Idol	TA	1	57	112	87	168	148
025 Cruiser	RS	1	57	116	99	71	88
026 Laser	RS	2	77	116	90	110	115
027 Skiff	RS	2	70	108	114	37	68
028 Corvet	RS	4	100	100	100	100	100 (Reference variety)
029 Coaster	RS	4	99	100	99	113	107
030 Ritados	OE	2	77	113	102	105	116
031 Stolto	OE	3	113	82	79	116	95
032 Southern							
Comet	ASG	2	104	77	87	182	140
033 Futura	ASG	4	115	78	83	138	98
034 E 91 B	ENZA	2	70	159	138	51	110

CAULIFLOWER VARIETY TRIALS 1983

1. planting

Variety	Seed supplier	Days from planting to 50% yield	Length of yield period in days	Yield			Curd					
				Total kg/daa	Class I kg/daa	% Class I	Average wt. per head Class I in grams	Colour 1-9*	Height of curd 1-9*	Uniformity 1-9*	Compactness 1-9*	Division of florets 1-9*
Junal	DP	66	15	1700	1550	91	470	7.5	6.6	7.8	7.7	6.1
Alpha												
Balanca	ARZ	69	12	1750	1500	86	495	7.8	7.8	7.5	8	6
Alpha												
Prekasa	"	67	12	1900	1750	91	520	7.2	7	7.7	7.8	6.9
Svale	SUH	70	18	2050	1700	84	520	6.6	6.1	7.3	8.4	5.4
Ballade	RS	78	8	2300	2150	92	640	8.2	7.5	8.3	9	6.2
Andes	ARZ	75	12	2250	1950	87	645	8	7.5	7.8	8.8	6.2
Type 779	LDM	77	15	1850	1600	86	490	6.9	5.9	7.1	7.7	5.1
Atos	RS	81	22	1800	1650	92	508	7.2	6.6	7.7	8	7
RS 1857	"	83	15	2450	2350	95	680	7.8	7.4	7.6	8	6
Florian	LD	Varieties did not produce heads.										
Cora	LD	Varieties did not produce heads.										
Alpha Jubro	ARZ	65	12	1700	1450	88	470	7.2	6.4	7.8	8	5.8
Alvita	BEJO	64	18	1850	1250	67	510	6.1	6.1	6.7	7.7	6.1
White Corona SAK	Varieties did not produce heads.											
"	Baron	"										

Sown: 28/3

Planted: 28/4

Plot size: (6 x 1.30)m = 7.8 m²

Replications: 3

No. of plants per pot: 30

Between plants: 40 cm

Between rows: 65 cm

* Scale 1-9, where 9 is the best character.

CAULIFLOWER VARIETY TRIAL 1983

2. planting

Variety	Seed supplier	Days from planting to 50% yield	Length of yield period in days	Yield			Curd						
				Total kg/daa	Class I kg/daa	% Class I	Average wt. per head Class I in grams	Colour 1-9*	Height of curd 1-9*	Uniformity 1-9*	Compactness 1-9*	Division of florets 1-9*	
White Fox	S&G	74	23	2200	1500	69	625	6.8	6.7	7.6	8.7	4.8	
54925 K	SUH	88	29	2350	2150	92	695	6.3	7.6	7.1	9	5.4	
64002 K	"	86	30	2850	2600	92	770	8.7	7.5	8.3	9	5.5	
Cervina	RS	91	31	2250	1950	87	690	7.1	7.4	8.9	9	5	
Svavit	SUH	86	31	2800	2800	99	800	8.9	7.6	8.7	9	5	
Vito	"	90	23	2900	2900	99	83	8	7.3	9	8.7	5	
Vernon	RS	84	28	2800	2550	91	790	8.2	8.2	8.6	9	5.6	
Atos	RS	71	37	1550	450	29	585	7	5	6	7	7	
RS 1857	"	81	32	2350	2100	89	700	7.8	7.2	7.6	8.4	5.2	
E 1080	ENZA	79	44	2000	300	15	665	7	5	7	8	5	
Mechelse x								Intensive riceyness on both varieties.					
Carillon	S&G	61	27	1900	150	9	640	7.6	7	8.3	9	4.3	
Menovi	SUH	72	27	2050	1700	84	555	7	6	8	6.5	6	
Solvi	"	82	37	2500	2250	89	725	7.5	7	7	8.5	4.5	
Alpha Jubro ARZ		76	50	2200	1000	46	690	6	6.7	8.3	8.3	5.4	
Magis	LC	84	21	2500	1950	78	685						
Vega	"	The variety did not produce heads.											

Sown: 11/5

Planted: 16/6

Plot size: (6 x 1.30)m = 7.8 m²

Replications: 3

No. of plants per plot: 30

Between plots: 40 cm

Between rows: 65 cm

* Scale 1-9, where 9 is the best character.

ONION VARIETY TRIAL 1983

Yield and quality

Variety	Seed supplier	Total yield in ² kg/m	Yield class I in ² kg/m	Total number of onions ² per sq. m	% number of onions > 40 mm	Weight in g/ onion > 40 mm	% loss in weight	Skin colour 1-9*	Skin quality 1-9	Rottening	Internal colour	
											Main colour	Other colour
01 Jumbo		2.57	2.43	31.2	84.4	93	5.3	5	8	4	7	Green top
02 Augusta		2.39	1.98	43.2	67.5	73	17.2	4	8	9	7	"
03 Hyper F ₁		2.74	2.37	41.8	72.7	78	13.5	4	5	9	6	"
04 Wabasto		2.48	2.10	37.7	71.8	78	15.4	4	7	6	6	"
05 Balstora		3.07	2.80	41.8	79.1	85	8.9	4	4	7	6	"
06 Mabol		2.46	2.09	37.9	68.9	80	15.2	5	8	6	7	"
07 Solo		2.85	2.67	36.7	83.6	87	6.4	4	5	9	6	"
08 Robusta		2.90	2.60	42.3	77.3	80	10.2	5	8	7	6	"

Replications: 3

Sown: 3/5

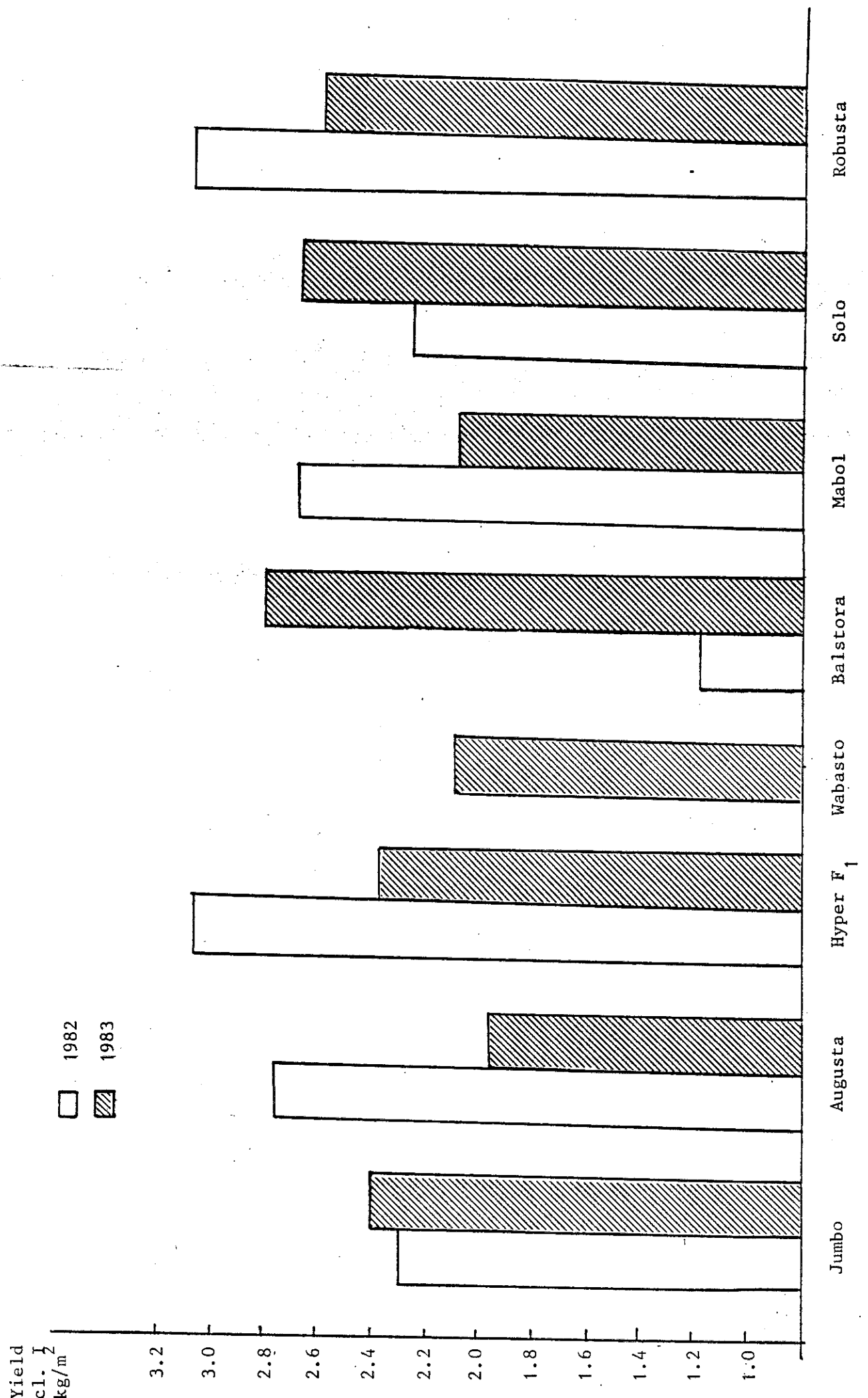
Plot size: (1.30 x 5)m = 6.5 m²

3 rows per plot

3.5 g seed per plot or ca. 50 seeds pr. m

* Scale 1-9, where 9 is the best character.

Figure 1. Comparison of yields, Class I, in 1982 and 1983 for 7 varieties of ONIONS



ONION VARIETY TRIAL

Relations between variety and spacing between plants. .

Variety	Spacing between plants (cm)	Total yield in kg/m ²	Number of onions pr. m ²	% number of onions in Class I	Weight in g/onion Class I	% lodging
Balstora	5	4.42	40.4	92.4	116	94
	7.5	3.94	28.8	94.7	142	80
	10	3.07	20.8	94.4	154	74
Hyper	5	3.90	37.3	89.7	114	97
	7.5	3.86	28.8	92.0	143	89
	10	3.00	20.8	92.6	154	76
Jumbo	5	4.05	38.1	86.9	118	100
	7.5	3.27	26.5	88.4	137	94
	10	2.63	19.6	92.2	143	71

ONION OBSERVATION TRIAL 1983

Yield and quality

Variety	Seed supplier	Total yield in 2 m^2 kg/m ²	Yield class I in 2 m^2 kg/m ²	Total number of onions ² per sq. m	% number of onions > 40 mm	Weight in g/onion > 40 mm	% loss in weight	Skin colour 1-9*	Skin quality 1-9	Rottening	Form**	Internal colour	
												Main colour	Other colour
Tarzan, gj.snitt		1.13	0.46	36.9	22.9	52.7	60.4	5	5	7	R	7	Green top
Hygro		2.98	2.63	46	74.0	77.6	12.0	4	6	9	R	7	"
Hyton		1.82	1.28			52.0	29.6	5	9	9	R	7	"
Hyduro F ₁		2.50	1.95	46	60.8	69.5	21.8	5	9	9	R	7	"
Oporto		2.60	2.21	39.6	71.8	77.6	15.1	5	5	9	HR	7	"
Tarzan		2.20	1.94	36.9	75.0	70.0	12.0						

Plot size: (1.30 x 5)m = 6.5 m²

Sown: 3/5

* Scale 1-9, where 9 is the best character

** R - round

HR - highround

PAPRIKA VARIETY TRIALS 1983
 UNHEATED POLYETHYLENE TUNNELS.

Variety	Seed supplier	% Class I	Average weight of Class I fruits (g)	Yield of Class ₂ I pr. m ² (kg)	Total yield pr. m ² (kg)
154 F ₁	ENZA	19	147.2	0.83	4.39
Clio	"	0	0	0	4.59
Bellamy	AH	25	160.5	1.91	7.51
Sempre	SPER	9	68.4	0.68	7.23
Merit	"	33	134.8	3.71	11.21
Shamrock	ASG	32	169.8	2.87	8.84
Cadice	NF	26	160.9	2.31	9.04
Pekana	"	21	91.9	1.49	7.10
Lincoln Bell	STO	17	148.1	1.48	8.76
Super Set	"	28	135.8	2.12	7.50
Argo	"	43	167.6	3.25	7.54
Yolo Wonder	RS	27	150.6	2.35	8.77
California Wonder	"	36	135.8	2.21	6.18
Bell Boy	"	51	143.2	3.49	6.88
Wonder Bell	TA	11	143.9	0.81	7.45
New Ace	"	14	112.7	1.06	7.49
P 108	AH	33	164.8	2.16	6.61

Replications: 2
 Plot size: 0.8 m²
 Between plants: 50 cm
 Between rows: 50 cm
 Planted: 6/6
 Sown: Between 5.-12/4

SWEET CORN
 VARIETY TRIAL 1983. YIELD AND QUALITY

Variety	Seed supplier	% yield up to 22/9	Yield		C o b				Economic value	
			% Class I	Total kg/daa	Number of Class I/daa	Number of Class I/plant	% Class I	Sweetness 1-9		
Jelly Bant-ham Extra										
Early	TA		68	1100	2500	0.61	55	6.0	5.0	
Butter Vee	STO	96	85	1150	3200	0.84	76	4.8	-	
Aztec	ASG	87	84	1350	4250	1.11	78	4.8	-	
Honeycomb	KEY	67	67	1550	3700	0.98	56	8.0	6.6	
Wondersweet	HAR	-	84	1150	3800	0.91	77	7.7	6.6	
Northern										
Belle	HAR	-	86	1750	5500	1.43	81	5.0	7.3	
Carnelet	SW	69	82	1150	3600	0.91	72	6.0	6.0	
Burgundy										
delight	"	66	85	1450	4900	1.26	80	5.8	6.6	

Plot size: $(6 \times 1.30)m^2 = 7.80 m^2$

Sown: 24/5
 Replications: 3
 No. of plants per plot: 30 = (3840 plants per dekar)

1. harvest: 30/8
 Between plants: 40 cm, between rows: 40 cm.

TOMATO VARIETY TRIAL 1983
IN THE OPEN

Variety	Seed supplier	Yield				Fruit
		Up to Aug. 25 kg/daa	Total kg/daa	% Class I	% Class II	Average weight in grams Class I
Alfresco	CS	2900	4550	71.1	14.0	58
Bonset F ₁	RS	1450	6400	64.4	9.8	73
Fusor VF ₁ TmVF ₁	CL	1600	9100	71.7	10.7	91
WW 730-78	WW	3000	4100	52.9	29.6	73
Melody HF ₁ -VF ₁ TMV	ETS-Tezier	1350	8250	70.7	13.8	85
Fusca	VIL	1350	7500	61.0	12.1	95
Quantor VTMVF ₁	CL	2100	6800	77.3	13.1	89
TmVF ₂ NC F120	S&G	1050	6450	50.9	16.5	76
Kvithamar	NF	650	7050	47.5	11.7	66

Replications: 4
 Sown: April 21.
 Planted: June 8.
 First harvest: July 22.
 Plot size: 1.3 x 1.65 m = 2.15 m²
 Plant number: 8
 Between plants: 33 cm
 Between rows: 40 - 80 - 40 cm

TOMATO OBSERVATION TRIAL 1983
IN THE OPEN

Variety	Seed supplier	Yield				Fruit
		Up to Aug. 25 kg/daa	Total kg/daa	% Class I	% Class II	Average weight in grams Class I
Red Alert	ASM	350	2450	-	64.6	-
Wilset	RS	900	7400	57.8	7.9	67
Zircon/ TmVFI ₁ 2NF ₁	RS	-	6950	48.7	16.4	105
Turquesa/ TmVFI ₁ 2NF ₁	RS	-	8850	33.2	23.2	90
WAV 1641 F ₁	WAV	1150	6850	66.6	12.0	80
Peto 94 (700)	PS	800	4250	77.8	15.8	75
Hybrid 31, 314	PS	700	7100	65.6	10.2	82
Petopride, No. 2 (285)	PS	750	7800	61.3	18.0	101
Alfresco	CS	1400	6750	59.7	24.0	55

Replications: No
 Sown: May 5.
 Planted: June 14
 First harvest: July 13
 Plot size: 1.3 x 1.65 m = 2.15 m²
 Plant number: 8
 Between plants: 33 cm
 Between rows: 80 - 40 - 80 cm

EGNO - NORWAY 1983

Variety	Seed supplier	Yield				Fruit
		Up to Aug. 25 kg/daa	Total kg/daa	% Class I	% Class II	Average weight in grams Class I
Duke	P PS	650	8850	80.6	10.8	112
"	N	-	3900	52.6	18.1	82
"	O	550	7400	66.5	12.4	124
Peto 86	P PS	550	5900	72.3	10.2	78
"	N	150	3550	53.8	22.2	61
"	O	400	6200	58.0	18.9	69
Alfresco F ₁	P CS	2550	8400	74.5	11.9	57
"	N	750	5050	54.2	19.4	44
"	O	4000	7450	72.0	12.9	58
Delisa F ₁	P ENZA	1850	10500	57.2	15.9	88
"	N	150	4900	34.3	16.3	102
"	O	850	8450	36.9	14.6	80

P = Plastic house

N = Net house

O = In the open

Replications: 4
 Sown: April 21.
 Planted: In the plastic- and the nethouse: June 3.
 In the open: June 8.
 First harvest: July 29.
 Plot size: 1.3 x 2.0 m = 2.6 m²
 Plant number: 12
 Between plants: 33 cm
 Between rows: 40 - 80 - 40 cm
 Irrigation: Agro drip inside the houses.